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09/696,491	10/25/2000	David W. Paranchych	NORT0031US(10955RRUS02U)	3619

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EXAMINER

NGUYEN, DAVID Q

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/696,491

Applicant(s)

PARANCHYCH ET AL.

Examiner

David Q Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 6-24, 26, 28 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 6-24, 26, 28 and 30-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2,4,7-18,30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of weaver et al. (US Patent Number 5727033).

Regarding claim 4, Hamalainen et al disclose a method of performing power control in a mobile communications system having a base station and a mobile unit, comprising: detecting an error in reception of predetermined information in a link between the base station and the mobile unit when traffic channels are not being communicated (see page 7, lines 3-7 and abstract; fig. 1-3); adjusting a power control element based on the detected error (see abstract and page 9, lines 23-33).

Hamalainen et al are silent to disclose wherein adjusting the power control element comprises adjusting a target ratio of energy per bit to noise spectral density based on the detected error in the control signaling.

However, Weaver et al disclose adjusting the power control element comprises adjusting a ratio of energy per bit to noise spectral density based on the detected error of voice data and reverse link (see col. 3, lines 45-65 and col. 4, lines 29-33). In page 5, lines 15-20 of the

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specification of the application, applicants mention that the reverse link includes a pilot channel, a power control subchannel, a traffic channel, and other channels. The traffic channel may include a dedicated control channel (DCCH), fundamental channel (FCH), supplemental channel (SCH), and other channels. It is apparent that Weaver et al disclose wherein adjusting the power control element comprises adjusting a target ratio of energy per bit to noise spectral density based on the detected error in the control signaling.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to improve good signal quality.

Regarding claim 30, Hamalainen et al disclose an article comprising one or more machine-readable storage media containing instructions for performing tasks in a mobile communications system, the mobile communications system having a mobile unit, a base station, and a link between the mobile unit and base station, the instructions when executed causing a controller to: determine whether the mobile unit is in discontinuous transmission mode (see pages 7-9 and explanation in the above claims); detect for one or more errors in control signaling received over the link; and adjust a power control element based on the detected one or more errors in the control signaling if the mobile unit is in the discontinuous transmission mode (see pages 7-9 and explanation in the above claims); detect for one or more errors in traffic signaling received over the link (see pages 7 to 9 and abstract).

Hamalainen et al do not mention adjusting the power control element based on the detected one or more errors in the control signaling if the mobile unit is not in the discontinuous transmission mode.

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However, Weaver et al disclose adjusting the power control element based on the detected one or more errors in the control signaling if the mobile unit is not in the discontinuous transmission mode (see col. 3, line 45 to col. 4, line 40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to improve good signal quality.

Regarding claim 33, Hamalainen et al disclose a data signal embodied in a carrier wave comprising one or more code segments containing instructions for performing tasks in a mobile communications system, the instructions when executed causing a controller to: monitor one or more errors in receiving predetermined pilot signal information when traffic signaling is not being transmitted (see explanation in claim 1 and 20).

Hamalainen et al are silent to disclose performing outer loop power control based on monitored one or more errors, wherein performing the outer loop power control comprises adjusting a target ratio of energy per bit to noise spectral density based on the monitored one or more errors in the predetermined pilot signal information.

However, Weaver discloses performing outer loop power control based on the monitored one or more errors, wherein performing the outer loop power control comprises adjusting a target ratio of energy per bit to noise spectral density based on monitored one or more errors in a pilot signal information (see col. 3, line 58 to col. 4, line 6; and col. 4, lines 26-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Willenegger in order to improve good signal quality.

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Regarding claim 2, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose wherein detecting the error occurs during a discontinuous transmission mode (see page 9, line 11-34; and abstract).

Regarding claims 7 and 8, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Weaver et al also disclose wherein detecting the error comprises detecting an error in a given number of samples and bits of the control signaling (see col. 3, lines 45-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to improve good signal quality.

Regarding claim 9, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose communicating a power control command based on the power control element to affect transmission power of the mobile unit (see abstract).

Regarding claim 10, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Weaver et al also disclose wherein detecting the error comprises detecting a bit error rate (see col. 3, lines 45-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to improve good signal quality.

Regarding claim 11, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose receiving the control signaling over a reverse link (see abstract and page 9, lines 23-35).

Regarding claim 12, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose receiving the control signaling over a forward link (see abstract and page 9, lines 23-35).

Regarding claim 13, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose receiving the control signaling over a link according to a code-division multiple access protocol (see abstract and page 9, lines 23-35).

Regarding claim 14, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose detecting that the base station is in discontinuous transmission mode, wherein detecting the error and adjusting the power control element are performed while the base station is in the discontinuous transmission mode (see abstract; page 7, line 3 to page 8, line 31).

Regarding claim 15, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose detecting that the mobile unit is in discontinuous transmission mode, wherein detecting the error and adjusting the power control element are performed while the mobile unit is in the discontinuous transmission mode (see abstract; page 7, line 3 to page 8, line 31).

Regarding claim 16, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose detecting that the mobile unit is in discontinuous transmission mode comprises detecting a power level of a traffic channel transmitted by the mobile unit (see page 7, lines 3-8 and abstract).

Regarding claims 17 and 18, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose wherein detecting that the mobile unit is in discontinuous transmission mode comprises detecting a state of a predetermined information field; wherein the information field comprises one or more power control bits of data frame transmitted by the mobile unit (see pages 7 to 9; abstract).

Regarding claims 31-32, Hamalainen et al disclose an article comprising all of the limitations as claimed above. Hamalainen et al are silent to disclose instructions that when executed cause the controller to increase or decrease a target ratio of energy per bit to noise spectral density if an error rate exceeds or does not exceed threshold. However, Weaver discloses instructions that when executed cause the controller to increase or decrease a target ratio of energy per bit to noise spectral density to maintain a constant symbol error rate (see col. 4, lines 29-32). It is apparent to instruct that when executed cause the controller to increase or decrease a target ratio of energy per bit to noise spectral density if an error rate exceeds or does not exceed threshold. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to improve good signal quality.

Regarding claim 34, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose wherein the instructions when executed further cause the controller to further detect that a system has entered into a discontinuous transmission mode (see page 7, line 3 to page 9, line 22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to improve good signal quality.

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Regarding claim 35, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose wherein the system comprises a mobile unit (see abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to power control loop used in wireless network for improving good signal quality.

Regarding claim 36, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose wherein the system comprises a base station (see abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Hamalainen et al in order to power control loop used in wireless network for improving good signal quality.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of weaver et al. (US Patent Number 5727033) and further in view of Chen et al. (US Patent Number 6208699).

Regarding claim 6, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. They are silent to disclose detecting an error in the control signaling over a given period of time. However, Chen discloses detecting an error in the control signaling over a given period of time (see col. 8, lines 35-47; table 1; col. 9, lines 11-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to provide the above teaching of Chen to Weaver, Hamalainen et al in order to improve good signal quality.

3. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of weaver et al. (US Patent Number 5727033) and further in view of the admitted prior art.

Regarding claim 19, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also disclose wherein adjusting the power control element is based on the detected error if the mobile unit is detected to be in the discontinuous transmission mode (see abstract; pages 7-9).

They do not mention adjusting the power control element is based on the frame error rate of the traffic channels when the mobile unit is detected to be not in the discontinuous transmission mode.

However, the admitted prior art mentions adjusting the power control element is based on the frame error rate of the traffic channels when the mobile unit is detected to be not in the discontinuous transmission mode (see page 2, lines 10-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of the admitted prior art to Weaver and Hamalainen et al in order to improve good signal quality.

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4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of weaver et al. (US Patent Number 5727033) and further in view of Willenegger et al (US Patent Number 5933781).

Regarding claim 3, Hamalainen et al disclose a method modified by Weaver comprising all of the limitations as claimed above. Hamalainen et al also discloses receiving a pilot channel from the mobile unit over the link (see fig. 1). They do not mention the control signaling comprising the pilot channel. However, Willenegger et al mention the control signaling comprising the pilot channel (see fig. 1 and col. 5, lines 40-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Willenegger to Weaver and Hamalainen et al in order to improve good signal quality.

5. Claims 20-22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of Willenegger et al. (US Patent Number 5933781).

Regarding claim 20, Hamalainen et al disclose a system for use in a mobile communications system comprising a receiver to receive control signaling and traffic signaling from a mobile unit (see fig. 1 and fig. 1); a controller to detect whether the mobile unit is in discontinuous transmission mode (see fig. 1-2 and page 7, lines 3-20); detect for error in the received control signaling from the mobile unit and to adjust a power control condition based on detected error in the received control signaling in response to detecting that the mobile unit is in the discontinuous transmission mode (see page 9, lines 11-33; and fig. 7).

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Hamalainen et al do not mention the controller detect for error in the traffic signaling from the mobile unit and to adjust the power condition based on detected error in the traffic signaling in response to detecting that the mobile unit is not in the discontinuous transmission mode.

However, Willenegger et al disclose detect for error in the traffic signaling from the mobile unit and to adjust the power condition based on detected error in the traffic signaling in response to detecting that the mobile unit is not in the discontinuous transmission mode (see col. 3, line 45 to col. 4, line 33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Willenegger to Hamalainen in order to improve signal quality of traffic channel.

Regarding claim 21, Hamalainen et al disclose a system modified by Willenegger et al comprising all of the limitations as claimed above. Willenegger also discloses receiving a pilot channel from the mobile unit over the link, the control channel comprising the pilot channel (see fig. 1 and col. 5, lines 40-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Willenegger to Hamalainen so that the system does not use traffic channel.

Regarding claim 22, Hamalainen et al disclose a system modified by Willenegger et al comprising all of the limitations as claimed above. Hamalainen et al also disclose the receiver is adapted to receive code division multiple access control signaling (see page 6, line 23 to 35 and fig. 2).

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Regarding claim 26, Hamalainen et al disclose a system modified by Willenegger et al comprising all of the limitations as claimed above. They do not mention wherein the control and traffic signaling are communicated in a reverse link between the mobile unit and a base station. However, examiner takes official notice that the control and traffic signaling are communicated in a reverse link between the mobile unit and a base station is well known in the art.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of Willenegger et al. (US Patent Number 5933781) and further in view of Weaver et al. (US Patent Number 5727033).

Regarding claim 28, Hamalainen et al disclose a system modified by Willenegger et al comprising all of the limitations as claimed above. They are silent to disclose the power control condition comprises a target ratio of energy per bit to noise spectral density.

However, Weaver et al disclose the power control condition comprises a target ratio of energy per bit to noise spectral density (see col. 3, line 45 to col. 4, line 40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Weaver to Willenegger and Hamalainen et al in order to improve good signal quality.

7. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of Willenegger et al. (US Patent Number 5933781) and further in view of Chen et al. (US Patent Number 6208699).

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Regarding claim 23, Hamalainen et al disclose a system modified by Willenegger et al comprising all of the limitations as claimed above. They do not mention the receiver is adapted to receive IS-2000 control signal. However, Chen et al. mentions the receiver is adapted to receive IS-2000 control signal (see col. 8, lines 14-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of Chen to Willenegger and Hamalainen in order to improve system.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamalainen et al. (WO 98/36508) in view of Willenegger et al. (US Patent Number 5933781) and further in view of the admitted prior art.

Regarding claim 24, Hamalainen et al disclose a system modified by Willenegger et al comprising all of the limitations as claimed above. They do not mention wherein the traffic signaling is not transmitted during discontinuous transmission mode. However, the admitted prior art mentions the traffic signaling is not transmitted during discontinuous transmission mode (see page 1, lines 28-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of the admitted prior art to Willenegger and Hamalainen in order to improve system.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Q Nguyen whose telephone number is 7036054254. The examiner can normally be reached on 8:30AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



David Nguyen


SINH TRAN
PRIMARY EXAMINER